Turingtext

Life Insurance Industry Case Study:

A Leading Life Insurance Company's Multichannel Customer Communication Management (CCM) Solution

A leading life insurance company **(The Company)** in Taiwan offers a variety of insurance products designed to meet its clients' specific needs and requirements. It employs multiple marketing strategies, including direct sales and partnerships with financial institutions, insurance brokers, and brokerage houses. With **approximately 6,000 staff members**, The Company has a substantial presence in the industry. The individual insurance business unit serves nearly **3 million policyholders**.

Our Client's Requirements and Project Scope

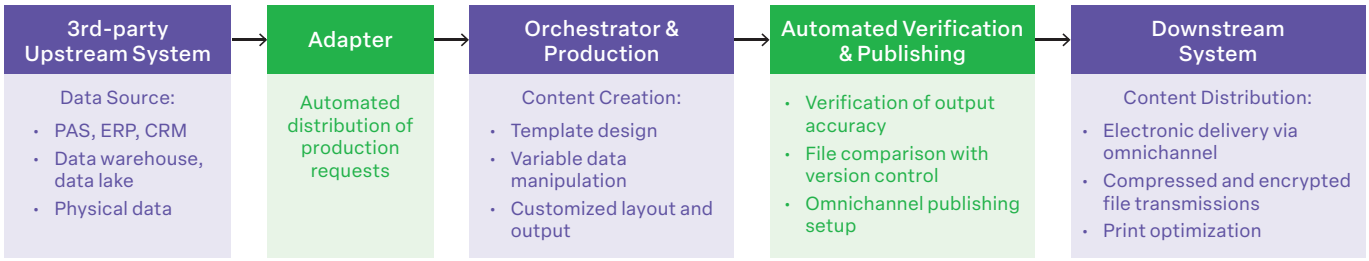
TuringText provides **The Company** with an integrated life insurance business solution that supports **ultra-high volume dynamic, data-driven, and personalized customer communications**. The system offers an **end-to-end** workflow, from document design and production to publication, enabling seamless management of:

- Dynamic document production and publishing for a comprehensive range of The Company's life insurance products and policyholder amendments.
- **Over 200 policyholder communication letters and notifications** were deployed into **150 document templates** covering the entire lifecycle of an insurance policy for more than 3 million active policyholders. These documents include policy notifications, billing and claim notifications with barcoded checks, and other customer communication marketing and compliance materials.
- Types of dynamic insurance business documents include:

1. **Insurance contracts:**
   Notice of Non-Coverage, survival investigation forms, medical questionnaires, underwriting result notifications, benefit notifications, etc.
2. **Premium notices:**
   Payment authorization forms, receipt confirmations, policy payment notices, etc.
3. **Policyholder services:**
   Loan repayment notices, chronic disease prevention health check-up notices, policy renewal notices, etc.
4. **Claims:**
   Claims notification letters, insurance claims payment notices, annuity payment notices, etc.
5. **Interactive remittance documents and financial instruments,** including barcodes and QR codes, allow policyholders to remit payments or receive checks with added security. Combining our integration expertise in both software and hardware to foster a better end-user experience.

Due to frequent policy changes, warnings, clauses, or urgent updates requiring document content alterations, the TT Central system seamlessly integrates dynamic content production and rendering for ultra-high volume personalized policyholder letters and notifications throughout **The Company's** entire business process for electronic content management and distribution.

End-to-End Business Processes & Flexible Ecosystem Integration



TuringText Integrated End-to-End Solution

Multiple Channels Outputs

The TuringText CCM solution supports multiple output channels to publish and distribute content to end users, including:

1. Integration with digital printing outsourcing partners for physical printing and delivery.
2. Delivery of electronic and encrypted stamps of authentication on documents.
3. Integration with marketing automation tools, including email management and digital content distribution platforms.
4. Integration with third-party upstream systems, including Policy Administration Systems (PAS).
5. Integration with archive systems.

Comprehensive Integration with The Company's Enterprise Systems

The TuringText CCM solution provides **The Company** Life Insurance Company with comprehensive 3rd parties system integration services, including:

1. Bilateral system integration with the core Policy Administration System (PAS) to retrieve document request data in real-time and batch modes.
2. Integration with **The Company's** single sign-on mechanism via LDAP to streamline security and authentication compliance.
3. Integrating with **The Company's** font management system ensures that documents consistently display the correct fonts. If any characters are missing or incorrect, the document will not be published, and our system will automatically generate alerts for follow-up. For Asian fonts, this is especially important as Asian characters are displayed through Unicode, and blank spaces define missing characters.
4. Integration of third-party systems enhances the insurance ecosystem, promoting internal collaboration, customer relationship management, and content management systems.
5. Integration with printing facilities to print financial instruments such as checks in real-time and batch modes.
6. Integration with third-party payment services incorporating barcodes and QR codes.
7. Automate the production and publishing of WCAG compliant documents to meet accessibility requirements.

Robust System Implementation & Deployment with Minimal Disruptions to Power Users

Our system migration and deployment process prioritizes minimal client involvement and business disruption. We achieve this through:

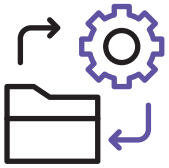
1. **Automated Verification:** DocLens, our built-in service, allows for visualized side-by-side document comparison with highlighted differences, ensuring accuracy. It supports advanced functionalities like PDF Regression and Parallel Testing for comprehensive verification and version tracking.
2. **Centralized User Testing:** A unified user testing environment streamlines testing across more than 20 of the multiple upstream & downstream systems within The Company, increasing testing efficiency and ensuring the user test coverage meets acceptance requirements
3. **Continuous Integration/Continuous Deployment (CI/CD):** TT Central, our cloud-native platform, enables frequent, automated updates and testing without disruption. Our engineers manage system configuration, allowing client power users to focus on testing and data for a smooth launch.

TuringText System Flexibility and Capability

The deployed production environment requires only 5 document rendering CPU cores to fulfill one unified variant document generation service. All TuringText services applications were developed and implemented based on container technology with **Microservice architecture**. The microservice architecture methodology ensures the system application can be flexible when the business and technical environments change. Also, the service applications are deployed in containers that could be orchestrated and managed by **Kubernetes** and its Cloud Native Ecosystem applications. With **Kubernetes cloud-native technologies**, we can quickly expand our service applications horizontally while ensuring our system capabilities optimally support The Company's long-term growth & system requirements.

Performance & Output Overview

1. Our content documentation generation system, system deployment, and testing workflow achieve a maximum rendering capacity of **up to 7,800 copies** in the production environment, utilizing 5 CPU cores **(1,560 copies per CPU core per hour)**.
   - The workflow encompasses data retrieval and cleanup, HTML and PDF content production, and essential elements such as scanning, watermarking, barcode, and QR code insertion to meet various dynamic document requirements.
   - During non-peak times, rendering production is generated in real-time from third-party integrated systems, supporting on-demand, smaller size of batch tasks with production times of **under 10 minutes**.
   - During monthly and annual peak times like enrollment and national holidays, rendering requests are diverted to different rendering clusters. During the peak time, the number of request instants is over hundreds of thousands of documents generated daily. TuringText rendering engine clusters fulfill and dispatch the document rendering delivery with one rule-based request diversion.



2. Our rendering production workflow is divided into two clusters, each harnessing five CPU cores to power the document rendering engines. This configuration allows for **horizontal scaling (scale out)** without hardware constraints, enabling a rendering capacity of up to hundreds of thousands of data-driven policyholder notifications daily, with a five-hour lead time. Additionally, our setup supports up to **15% annual capacity growth**, with the option to add CPU cores as needed.

Illustration of TuringText's Products and Services:

TT Central

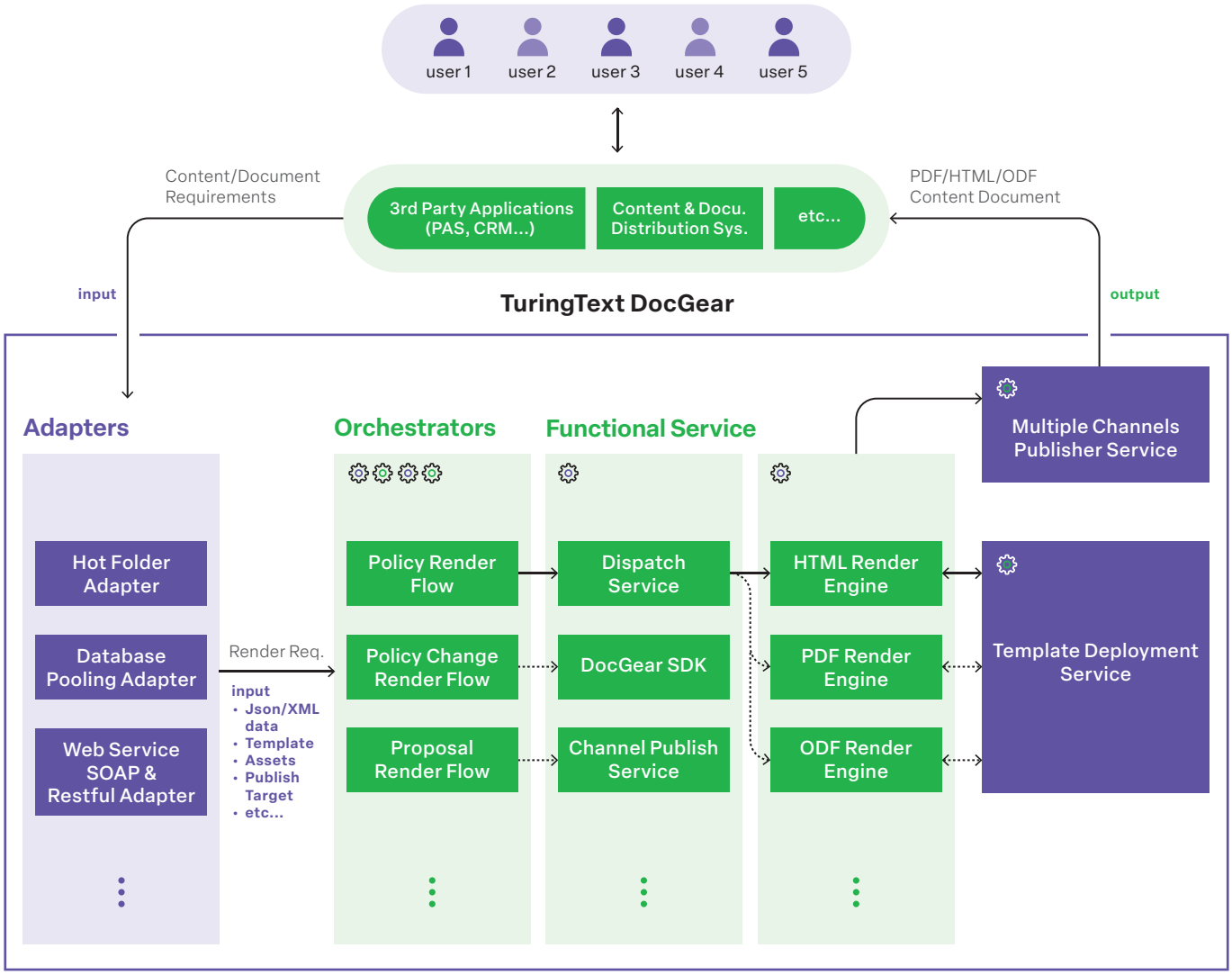
A centralized platform for managing and monitoring dynamic document content rendering and production.

DocGear

A data-driven, real-time and batch document rendering engine system.

DocLens

A system application for comparing and verifying final output accuracy.



Turingtext
A Pixroller Company

About TuringText

TuringText, an ISO/IEC 27001-certified company, is a leader in adaptive software development, providing robust and scalable solutions for a wide range of business environments. As a subsidiary of Pixroller Publishing Solutions in the USA, we draw on over 20 years of expertise in multilingual desktop publishing and translation workflows. Our in-house team of front-end and back-end developers serves global clients in regulated industries, delivering cutting-edge solutions that integrate advanced project management systems and comprehensive data automation.

For more information, please visit **www.turingtext.io**.

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